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USSR Report

AGRICULTURE

(FOUO 3/82)



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AGRO-ECONOMICS AND ORGANIZATION

CONCERN EXPRESSED FOR TURKMEN PRIVATE PLOT DEVELOPMENT

Ashkhabad S&L'SKOYE KHOZYAYSTVO TURKMENISTANA in Russian No 11, Nov 81 pp 2-3

/Article: "The Private Economy -- Reliable Assistance"/

/Text/ The social-economic policies of the Communist Party and the Soviet Government are based upon concern for steady improvements in the material and cultural standard of living for Soviet people. In this regard, the task of providing reliable support for the country in the form of food goods and agricultural raw materials is of priority importance.

The private plots of citizens must play a useful role in successfully solving this vitally important task.

In the accountability report by the CC CPSU to the 26th party congress, the General Secretary of the CC CPSU, Comrade L.I. Brezhnev, noted that the foundation of socialist agriculture has been and continues to be the kolkhozes and sovkhoses. However, this is not meant to imply that the potential of the private plots can be ignored, since this potential can be a substantial aid in the production of meat, milk and other food products for the population. The orchards, gardens, poultry and livestock which belong to workers constitute a portion of our overall wealth.

A considerable amount of concern for developing the private plots of kolkhoz members, manual and office workers, other citizens and collective horticulture and gardening is to be found in the decrees of the CC CPSU and the USSR Council of Ministers dated 14 September 1977 on "The Private Plots of Kolkhoz Members, Office Workers and Other Citizens" and 8 January 1981 on "Additional Measures for Increasing the Production of Agricultural Products on the Private Plots of Citizens" and also similar decrees by the Central Committee of the Communist Party of Turkmenistan and the Council of Ministers for the Turkmen SSR on problems concerned with development of the private plots.

The decrees call for the creation of material and moral conditions which will serve to raise the interest of citizens in maintaining private plots and, in particular, raising livestock and poultry.

Guided by these decrees, the republic's agricultural organs, kolkhozes and sovkhoses are providing the population with assistance in cultivating the private plots and in acquiring seed, mineral fertilizers and feed and they are organizing free veterinary services for the livestock and poultry. As a result, an increase has taken place

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in the volume of state procurements of surplus agricultural products being obtained from the population and, in addition, large quantities of meat, poultry, milk, eggs, honey, potatoes, vegetables, fruit, melons and other agricultural products are being procured annually by consumer cooperation.

Experience convincingly reveals that fine results are being obtained in those areas where genuine concern is being displayed for increasing the production of agricultural products on the private plots of citizens.

In 1980, for example, the private plots in Maryyskaya Oblast furnished 23 percent of the overall quantity of meat procured from the private plots of citizens throughout the republic, 69 percent of the milk, 37 percent of the wool and 29 percent of the eggs.

In addition, large quantities of vegetables, melons, grapes, milk, eggs, honey, grain, potatoes and other agricultural products were procured by organizations of Turkmenpotrebsoyuz /Turkmen Union of Consumers' Societies/.

Positive examples in the organization of procurements of agricultural products on the plots of citizens are to be found in all oblasts throughout the republic.

A considerable number of citizen plots in Chardzhouskaya and Tashauzskaya Oblasts concluded agreements with kolkhoz administrations for the fattening of young stock. The kolkhozes provide the feed and other materials required for carrying out the obligations set forth in the agreements.

The private plots of citizens can and must, in all areas, serve as a strong source for augmenting the food resources and improving the security of workers.

The agricultural organs, kolkhozes and sovkhoses must display a great amount of interest in increasing the production of agricultural products on the private plots of citizens. Indeed, this great work is directly associated with satisfying the increasing requirements of the workers.

We emphasize this point owing to the fact that in a number of rayons, as noted in September of this year during a session of the Presidium of the Supreme Soviet of the Turkmen SSR, serious shortcomings were uncovered in the work directed towards increasing the production of agricultural products on the private plots of citizens.

Although an increase has taken place over the past 5 years in the number of livestock on private plots in Maryyskaya Oblast, nevertheless a reduction has been observed in the number of sheep and goats per plot, especially in Bayram-Aliyskiy, Sakar-Chaginskiy and Murgabskiy Rayons. Concern is not being displayed for selling young large-horned and small-horned cattle stock to the population, organizing the fattening of young kolkhoz and sovkhos livestock on the private plots of citizens on a contractual basis, ensuring that feed is made available for this livestock or for raising the cropping power of forage crops. Contracts for the turning over of livestock have been concluded with only a negligible number of private plots.

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The agricultural organs are applying themselves only weakly to the work of increasing the production of agricultural products on the private plots of citizens in Dargan-Atinskiy, Karabekaul'skiy, Kalininskiy and a number of other rayons throughout the republic.

Despite the fact that the agricultural organs are carrying out a definite amount of work aimed at furnishing assistance in organizing the private plots of citizens, in the interest of increasing the production of agricultural products, there is still no basis for complacency. Reports are being received from various areas concerning the absence of sales of light agricultural implements, difficulties encountered in procuring pesticides for combating agricultural pests on the private plots and regarding only weak assistance being received from agronomic and zooveterinary personnel in cultivating the agricultural crops and tending the livestock. Difficulties are also being encountered in connection with the sales of the agricultural products.

An increase in the production of agricultural products on the private plots of citizens is of great social value. It provides assistance in carrying out the food program. Active work is being performed in this regard by the local soviets of people's deputies. Importance is attached to ensuring that the agricultural organs apply themselves fully to solving all tasks associated with increasing the production of agricultural products on the private plots of citizens.

Areas of special concern for the agricultural organs include: providing assistance to citizens in cultivating their private plots and supplying them with seed, vegetable crop seedlings, planting stock and the means for protecting the crops against agricultural pests and diseases.

In the future, a requirement will exist for improving the work of agricultural organs, kolkhozes and sovkhoses with regard to organizing assistance for the population, especially young families, in acquiring young livestock, poultry and coarse and concentrated feed and also in the construction of facilities for livestock maintenance.

Greater emphasis should be given to organizing contractual agreements between kolkhozes, sovkhoses and citizens for the fattening and raising of public livestock on private plots, with maximum assistance being provided for carrying out this plan.

It is known that a number of kolkhozes and sovkhoses are failing to carry out sufficient feed production work and this is adversely affecting the development of public animal husbandry and also the livestock being maintained by kolkhoz members and sovkhos workers. The managers of such farms must alter decisively their attitude towards this important sector of work, in the interest of satisfying more completely the feed requirements of animal husbandry.

The procurement organs and also enterprises of consumer cooperation are presently carrying out a definite amount of work aimed at improving the acceptance of agricultural products from citizens engaged in the raising of livestock and poultry. The agricultural organs must not ignore this important work, but rather they must furnish assistance to citizens in the deliveries and sales of these

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products. Only through joint efforts by the agricultural organs and procurement specialists will it be possible to achieve a further increase in the production of agricultural products on the private plots of citizens.

The specialists attached to agricultural organs, kolkhozes and sovkhoses can and must furnish a great amount of assistance to citizens in the production of agricultural products. By no means are all citizens familiar with the soil cultivation methods or how to tend crops on their private plots. In addition, many lack the skills required for protecting crops against agricultural pests and diseases and for applying fertilizer top dressings. Many important questions arise among the citizens in connection with the fattening of livestock and poultry and the maintenance of bee colonies. The leaders of agricultural organs, kolkhoz administrations and sovkhos directors must keep themselves apprised on a daily basis of the work being performed by the specialists and they must orient the latter towards furnishing agricultural and zootechnical assistance to those citizens having private plots and maintaining livestock and poultry.

The agricultural organs, jointly with the local organs of Goskomsel'khoztekhnika and trade enterprises, must search for opportunities for improving the supply to the population of those implements and other resources required for the cultivation of agricultural crops and the fattening of livestock.

An increase in the production and procurement of agricultural products on the private plots of citizens constitutes an important reserve for augmenting the food resources and full use must be made of this reserve.

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AGRICULTURAL MACHINERY AND EQUIPMENT

IMPACT OF FUEL LOSSES, WASTE IN NONCHERNOZEM AGRICULTURE DISCUSSED

Moscow SEL'SKOYE KHOZYAYSTVO NECHERNOZEM'YA in Russian No 12, Dec 81 pp 38-39

/Article by M. Zhukov, chief of the RSFSR Main State Inspectorate for Supervision of the Technical State of the Machine and Tractor Pool, and V. Vorogovskiy, division chief: "What a Gram of Losses Costs"

/Text Agriculture is the largest consumer of petroleum products in the country. Last year RSFSR kolkhozes and sovkhozes consumed more than 14.4 million tons of diesel fuel, 5.8 million tons of motor gasoline and a vast number of lubricants. Farms spend 25 to 27 percent of all the outlays on the operation of the machine and tractor pool and transport facilities on petroleum products.

In connection with this the following calculation is interesting: In the country an annual saving of only 1 percent of fuel will save 20 to 30 million rubles, which will ensure a year-round operation of 25,000 tractors of the DT-75 type. From this it is evident how urgent the problems of an economical expenditure of fuels and lubricants are.

The service of the RSFSR State Inspectorate for Supervision of the Technical State of the Machine and Tractor Pool pays special attention to these problems. Twice a year our rayon inspectorates screen the storage and expenditure of petroleum products and the repair and maintenance of the equipment of petroleum warehouses on kolkhozes and sovkhozes.

Screenings have shown that many farms in the republic, including in the nonchernozem area, correctly organize the storage and expenditure of petroleum products. For example, on the Pamyat' Il'icha Sovkhoz in Pushkinskiy Rayon, Moscow Oblast, the warehouse of fuels and lubricants is fenced, banked up and equipped with lightning rods and fire extinguishers. The capacities of the petroleum yard painted in bright tones are installed on fireproof foundations and equipped with breathing apparatus, sounding rods and calibration charts. Machines are filled with all types of fuels and lubricants only through mechanized columns. As a result, last year the farm saved 98 tons of diesel fuel and 3 tons of gasoline. A total of 72.3 tons of petroleum products have now been saved there during the first half-year alone.

The Borets Kolkhoz in Ramenskiy Rayon and the Zavety Il'icha Kolkhoz in Krasnogorskiy Rayon near Moscow, the Kolkhoz imeni Lenin in Shablykinskiy Rayon and the Luch Revolyutsii Kolkhoz in Uritskiy Rayon, Orlovskaya Oblast, and the Vernyy Put' Kolkhoz in Nekouzskiy Rayon, Yaroslavl'skaya Oblast, also exemplify an efficient attitude toward the use of petroleum products.

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Most farms in the Russian Federation implement organizational and technical measures for an improvement in the preservation and efficient expenditure of petroleum products and correctly apply individual norms of fuel consumption for all types of mechanized tractor and motor-vehicle operations. Closed fueling of machines is being introduced. More than 93 percent of the tractors are fueled in a mechanized way. All this made it possible to save 366,500 tons of diesel fuel on tractor operations in the republic in 1980.

The consumption of petroleum products per unit of work has declined somewhat recently. For example, whereas during the first 6 months of last year 8.2 kg of diesel fuel per conventional standard hectare were used at kolkhozes, sovkhoses and interfarm enterprises in the RSFSR, during the same period of this year, 8.1 kg. The consumption of gasoline per ton-kilometer was reduced by 9 grams.

At the same time, there are many collectives in rural areas that use petroleum products wastefully and do not save them. This year alone on the Molchanovskiy Sovkhoz in Tul'skaya Oblast more than 32 tons of scarce diesel fuel were used for heating the repair shop, bath house and boiler room. On the Kulikovskiy Sovkhoz in Orlovskaya Oblast last year 132 tons of scarce diesel fuel were used for municipal and domestic needs. On kolkhozes and sovkhoses in Bryanskaya, Vladimirskaya, Ivanovskaya, Kalininskaya and Smolenskaya Oblasts during the same period from 11,000 to 24,700 tons of fuel were burned in boiler rooms and heat generators.

The inspecting engineers of the State Inspectorate for Supervision of the Technical State of the Machine and Tractor Pool detected many cases of mismanaged storage of petroleum products. For example, on kolkhozes and sovkhoses in Orlovskaya Oblast in 178 out of the inspected 1,381 tanks there were no water-and-mud drain plugs, 335 capacities were not painted in bright tones, 177 were not installed on foundations, fuel leaked from 99 and 385 were depressurized. On the Lubyanskiy Sovkhoz in Dmitrovskiy Rayon not a single capacity is installed according to specifications. Most capacities are located on the ground, are depressurized and leak. The petroleum yard is not fenced, has no lightning rods and, essentially, is not banked up. Therefore, it was no coincidence that the diesel fuel per conventional standard hectare of tractor operations expended on this farm last year was 300 grams above the norm. Its total overexpenditure was 43 tons.

It has been established that, if a tank of a capacity of 10 cubic meters is not closed completely and if there is no breather valve, up to 2 tons of fuel are lost annually. Therefore, for these reasons alone 770 tons of fuel volatilized in Orlovskaya Oblast. In all last year kolkhozes and sovkhoses in Orlovskaya Oblast permitted an overexpenditure of 7,000 tons of diesel fuel and 17,000 tons of gasoline.

A parasitical frame of mind is observed among some managers and specialists of kolkhozes and sovkhoses in Tul'skaya Oblast. Otherwise how can one explain the fact that to this day on the Rossiya Sovkhoz in Venevskiy Rayon not only the diesel fueling of tractors is done manually, but gasoline is poured into motor vehicles by means of ... pails. If we take into account that with such fueling, on the average, 200 kg of fuel per motor vehicle are lost annually, its unproductive losses on this sovkhos will total 5.8 tons.

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At the same time, on the Mil'shino Sovkhoz in the same rayon unpacked fuel pumps have been standing outdoors and rusting for 3 years.

Despite the prohibition, as before, an illegal sale of fuels and lubricants is permitted in a number of places. For example, last year the Prozhektor Sovkhoz in Orshanskiy Rayon, the Mariyskaya ASSR, sold 16 tons of gasoline and 4 tons of diesel fuel to an outside consumer and the Kolkhoz imeni Kirov in the same rayon, 4.2 tons of motor-vehicle gasoline.

Taking advantage of the lack of control on the part of agricultural bodies, the managers of a number of farms in Vologodskaya, Pskovskaya, Ivanovskaya, Ryazanskaya, Tul'skaya and Kirovskaya Oblasts squandered from 340 to 1,580 tons of diesel fuel and from 160 to 650 tons of gasoline.

The plan for the construction and reconstruction of petroleum warehouses is not annually fulfilled in a number of oblasts. For example, on kolkhozes and sovkhozes in Kostromskaya Oblast during the past five-year plan only 44 out of the 94 planned petroleum warehouses were built. Farms in Pskovskaya Oblast and the Chuvashskaya ASSR store a vast quantity of fuels and lubricants in adapted petroleum warehouses and carry out the construction of new ones poorly. Therefore, it was no coincidence that last year agricultural enterprises and organizations in the oblast and in the republic overexpended 10,000 and 14,400 tons of gasoline respectively.

A considerable part of the petroleum products are lost as a result of the unsatisfactory maintenance of petroleum warehouse equipment and of the machine and tractor pool. The decree dated 29 December 1973 of the CPSU Central Committee and the USSR Council of Ministers "On Measures for an Increase in the Efficiency of Utilization of Fuel and Power Resources in the National Economy" entrusts the functions of repair and maintenance of the equipment of petroleum warehouses to the enterprises of the State Committee for Supply of Production Equipment for Agriculture. However, most rayon departments of the RSFSR State Committee for Supply of Production Equipment for Agriculture have not yet concluded service contracts with kolkhozes and sovkhozes.

On kolkhozes and sovkhozes in the Karel'skaya ASSR and in Kostromskaya and Vologodskaya Oblasts 5 to 16 percent of the oil dispensing pumps and 3 to 5 percent of the capacities are maintained. At the same time, the assigned tank service plans are not fulfilled. In Novgorodskaya, Vologodskaya and Kostromskaya Oblasts the Agricultural Equipment Association services 14 to 26 percent of the tanks and 5 to 40 percent of the pumps.

The workers of the State Committee for Supply of Production Equipment for Agriculture break contractual obligations very often. In Tul'skaya Oblast they repair and maintain closing fittings and fuel and oil dispensing pumps in an extremely unsatisfactory way. An inspection has shown that in the oblast 64 out of the 709 fuel and oil dispensing pumps are not used for more than 3 months, 105 require major repairs and 9 are inoperative because they lack some parts. Moreover, as a rule, farms receive tanks without breather valves, covers, calibration charts and sounding rods.

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On the Kolkhoz imeni 24 S'yezda KPSS in Krasnogorskiy Rayon, Bryanskaya Oblast, following maintenance fuel leakage from valves was observed. Other oblasts and autonomous republics in the nonchernozem area also have big complaints against the workers of the RSFSR State Committee for Supply of Production Equipment for Agriculture.

What are the results of the shortcomings in the maintenance of machines? A total of 12,700 out of the 86,600 tractors and motor vehicles in operation, which were inspected in the RSFSR, or 15 percent, had defects leading to an overexpenditure of fuel. For example, during the operation of a tractor with a breakdown in one injector the expenditure of diesel fuel increases by 30 percent and more.

The operation of a motor vehicle with a faulty spark plug increases gasoline consumption by 25 percent. If breaker points are adjusted with an error of only 0.2 mm, the overconsumption of gasoline can reach 10 percent. The presence of a coolant deposit increases fuel expenditure by another 7 to 8 percent. The operation of machines with disturbed angles of front wheel setting and a reduced air pressure in tires leads to a 30-percent fuel overexpenditure.

It is not difficult to calculate the fuel losses that occur in Tul'skaya Oblast, where 10 percent of the machines operate with similar defects and 26 percent of the tractors are not utilized at full capacity.

In a number of places attention is not paid to the collection of waste oil. At the same time, many forget that an underestimate of such an important measure leads not only to a reduction in petroleum reserves, but to environmental pollution as well.

There is no proper order in the recording of petroleum products. Monthly stock-taking of fuel remnants is not conducted everywhere. The registration forms of machine operators and the trip logs of drivers often lead to the most flagrant violations. For example, on the Dubovaya Roshcha Sovkhoz in Orlovskaya Oblast tractor operator Savva on a MTZ-50 tractor from 25 May through 25 June of this year in mechanized operations used 374 liters according to registration forms and 510 liters according to the data of the credit card, while the norm for the fulfilled volume of work is 1,672 liters of diesel fuel. At the petroleum yard of this sovkhoz there are no calibration charts, a sounding rod, or a petroleum densimeter. Therefore, remnants of petroleum products are not removed.

Why do such violations occur? First of all, as a result of the low demands and lack of control on the part of leading agricultural bodies. Often they do not pay attention to the illegal expenditure and poor storage of fuel and lubricants, to the unsatisfactory special maintenance of petroleum warehouse equipment and to the incorrect recording of petroleum products.

The bodies of the RSFSR State Inspectorate for Supervision of the Technical State of the Machine and Tractor Pool for significant shortcomings and violations were forced to stop the pay of managers and specialists of many farms, kolkhozes and sovkhozes in the nonchernozem area to cover the deficiencies caused by them.

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Unfortunately, however, the proper conclusions were not drawn in a number of places. Moreover, a further tendency toward an increase in the expenditure of petroleum products on kolkhozes and sovkhoses in the zone is observed. Throughout farms in the Central Region during the first 6 months of this year the consumption of motor-vehicle gasoline per ton-kilometer increased by 2 grams as compared with the same period last year.

At kolkhozes, sovkhoses and interfarm enterprises in Bryanskaya and Kaluzhskaya Oblasts the specific consumption of fuel in the motor pool during that time increased by 8 to 9 grams. If we take into account that on the farms of these oblasts in 6 months 164.6 million ton-kilometers were accomplished on motor vehicles, it is not difficult to calculate the total fuel overexpenditure: over 1,400 tons.

Saving and thrift are the main features of socialist management and the most important conditions for the further development of the country's economy and rise in the well-being of the entire Soviet nation. Therefore, managers of kolkhozes, sovkhoses and other agricultural enterprises and organizations should immediately introduce proper order in the utilization, storage, transportation and recording of petroleum products.

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TILLING AND CROPPING TECHNOLOGY

SOIL IN ESTONIA COMPARED WITH BALTIC, BELORUSSIAN NEIGHBORS

Tallinn SOTSIALISTLIK POLLUMAJANDUS in Estonian No 22, Nov 81 pp 837-838

[Article by Rein Kask, doctor of agriculture, director of the department of soil research of the Estonian Institute of Agriculture: "Is Land in Estonia Better Than the Neighbors'?"]

[Text] It is generally known that our republic is one of the strongest in the USSR as far as agricultural production per unit of area is concerned. This has caused interest in the quality of our agricultural soils. It is often taken for granted that Estonian soils are better than those of other western federal republics--Latvia, Lithuania, Belorussia, and also the Leningrad and Pskov oblasts of the RSFSR.

Some of our republic's soil researchers have contributed to this concept. We can thus read in Russian literature that brown soils characterized by especially high fertility⁴ or high capability⁵ are wide-spread in the ESSR.

The notion of high fertility of ESSR soils has been spread by several monographs. According to S. Sobolev and M. Malyshkin⁶ ESSR is in third place behind the Ukraine and Latvia (each with 1.3 points) as far as climatological and soil conditions go. ESSR is assessed 1.2 points. The USSR average is taken as 1.0.

S. Cheremushkin et al⁸ conclude that judged by the capability of arable land as expressed in total yields (1958 data) Estonia had 41 points, compared with 52 points for Latvia, 37 for Lithuania, 53 for Belorussia, and 73 for the Ukraine. One hundred points represented data for the Krasnodar Kray of the RSFSR. It should be pointed out that in both cases the capability index represented relationships between actual yields in a certain period, regardless of any economic and other factors bearing on yields. Thus land quality in the generally accepted sense has not been discussed.

According to L. Surovyy and V. Zubrovskiy,⁷ the comparative capability of arable land amounts to 36 points in Belorussia, 40 in Lithuania, 56 in Estonia, and 86 in Latvia. It should be noted that the base data was not comparable (cultivated land in one republic, arable land in another). The capability was determined after complex calculations, the result of which was the actual yield divided by 25. In other words, here too a comparative yield level rather than soil quality was determinant.

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And last about an assessment in which a representative of our republic participated. B. Malisauskas, A. Boruk, N. Seyman, and H. Kendra³ provide a comparative estimate of the capability of arable land in the western regions of the USSR (1974 level). According to them the capability of such soils in Estonia amounts to 47.7 points, 41.2 points in Latvia, 42.8 points in Lithuania, and 39.2 points in Belorussia. Unfortunately, one cannot agree with these figures either. What is the matter?

The capability was determined based on the extent of the various soil categories and their average capability; the capability of the soils of the western areas was taken to be an average of the republics' indicators. Basically, such a solution is a correct one. One important fact, however, was neglected--soils with identical nomenclature, especially surface carbonate soils, do not have identical characteristics in all republics under discussion. In Belorussia, Lithuania, and basically also in Latvia such soils are either non-collodial (formed on loess-like bases, ice-age sedimentation) or barely colloidal (formed on red-brown moraine). These soils are actually much more fertile than surface podsoil. Thus the Belorussian scale shows that the capability of surface carbonate soils (disregarding differences between subtypes and series) is 25 percent higher than that of surface podsoil; in Lithuania the figure is 35 percent higher.

Estonian surface carbonate soils, however, are markedly different. Such typical surface carbonate soils as our rock-covers, our gravelly, rocky, and pebbly soils are unknown elsewhere. Also, our leached surface carbonate soils are not identical to soils with the same nomenclature found elsewhere. Such soils here are pebbly in the BC and C horizons, or they are gravelly, or there is solid rock at a depth of 30-100 cm. Such categories represent 85-95 percent of the total area of our surface carbonate soils. Yet, these facts were ignored by the evaluators, and uniform assessment was made for all surface carbonate soils, exceeding the actual value of our soils. Such soils, however, encompass 29.2 percent of the Estonian, 7.1 percent of the Latvian, 4 percent of the Lithuanian and 0.2 percent of the Belorussian cultivated area.

The above is only one reason for missing the mark. Other factors also came into play. Let us draw attention to the line between surface carbonate and surface podsoil. In Belorussia soils are classed as surface carbonate if effervescence (carbonation) begins no deeper than 40 cm. In Latvia and Lithuania that line is at 60 cm. In Estonia, however, the 60 cm line agreed on by the Eesti Pollumajandusprojekt [Estonian Agricultural Design] and the Estonian Academy of Agriculture soil experts has gradually moved to 100 cm. Thus some soils classified in other federal republics as podsoil are here called surface carbonate soils, i.e. classed as soils with a higher fertility.

Such factors as rock content, variegation of soils, field size, etc. were completely neglected, although they influence the quality of cultivated land in our republic much more than elsewhere.

On the basis of the above one can say with full responsibility that the capability index presented by B. Malisauskas, A. Boruk, N. Smeyan, and H. Kendra does not reflect correctly the quality of the arable lands of the republics under discussion. The Estonian data is considerably overestimated.

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/In boldface/ Thus there is at this time no reliable material regarding the quality of the arable lands in the federal republics. Thus claims of a higher fertility of the ESSR soils and of a better quality of soils in general have their origin in some soil experts' poorly thought out findings, subjective impressions, or methodologically faulty research data. /end boldface/

It is possible that in future years comparative quality indexes will be developed for all federal republics. This would provide for land assessment on the basis of all-Union directives. Such an assessment was directed to be made by the end of 1980 in all federal republics. Considering methodological faults and previous experiences one should not be overly optimistic. As long as there are no reliable general soil quality indicators for the federal republics a direct comparison of factors directly bearing on soil quality must suffice. The data in the table are very limited and generalized. Not all indicators have been determined by the same methods. This is especially true for rocky soils and the importance of eroded soils.

The extent of rocky soils in Estonia is derived from the preliminary calculations of the soil research department of the Estonian Institute for Agriculture.¹ According to the "Eesti Põllumajandusprojekt" the extent of rocky soils is considerably smaller, amounting to 57.2 percent of agricultural land, with only 2.5 percent being heavily rocky. The table shows that the proportion of rocky soils in Estonia, Latvia, and Lithuania is quite similar. An important difference, however, lies in the extent of rockiness (there are no comparative figures). Such extensively and very extensively rocky soils as found frequently in North and sometimes also in Central and South Estonia are unknown in other republics of the western region. Extensive rockiness is a factor that considerably depresses the quality of our agricultural land. Unfortunately little attention has been paid to this in the research and characterization of our land, the existing official data is faulty and unsuitable for comparison with other federal republics.

The extent of eroded soils in cultivated lands is smallest in our republic, as shown in the table. One must agree with this. But at the same time it must be stated that soils (on slopes of 2-3 degrees) that are not considered eroded in our republic are thought of as somewhat eroded elsewhere. Thus it must be assumed that the importance of eroded soils in Estonia is not quite as small as the table indicates.

The agrochemical characteristics of soils depend largely on soil types. In the ESSR there are considerably more surface carbonate and boggy soils than in other republics of the western region. It is thus natural that the average humus content of cultivated land is higher on the average in our republic, that the proportion of soils requiring liming is lower, and that there are more soil nutrients than in other federal republics of the western area. As far as these indicators go the ESSR soils are undoubtedly better. But does this outweigh the extensive pebbliness and rockiness of our soils, and the resulting aridity, alkalinity, and the unfavorable phenomena associated with them? No. Soils with the highest humus and nutrient content (in the fine matter of the soil) are those on solid rock, or else thin gravelly and rocky soils. Such soils, as is known, are our most unfertile cultivated mineral soils. But it is precisely thanks to these soils that the average humus and nutrient content of our republic's soils is somewhat higher than in other federal republics.

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On the basis of the above it cannot be stated that the ESSR natural conditions, to include the arable soils and technological characteristics are better than in Latvia, Lithuania, and Belorussia.

/in boldface/ A comparison and assessment of the natural conditions of the various federal republics is a very responsible task that presupposes most of all the existence of data to be compared. Unfortunately it is precisely that which is lacking. In fixing the factors bearing on soil quality we have not always adhered to all-Union characterizations (soil classification units, extent of rockiness, etc.) even though the accepted system requires it.

From the standpoint of the ESSR the mechanical use of assessment in all-Union publications is completely unacceptable. Highly fertile soils in our republic cannot be considered such in an all-Union scheme, soil with average rockiness in our republic is considered extensively or very extensively rocky in all-Union distribution, etc. /end boldface/

It is natural that the all-Union classification and inventory of soils does not always provide a method to present the specific characteristics of our soils. In such cases union-wide units must be further subdivided. Unfortunately this is not always done to the extent required. In the nomenclature of ESSR soils, rocky soils of low fertility have been joined in the same group with more fertile gravelly soils, the surface soils (usually sandy and sandy-clayey soils) have been joined with leached surface podsoils (usually sandy loam). Leached surface carbonate soils are classed without differentiation between less fertile groups (deeply rocky, deeply gravelly, solid rock base) which are characteristic precisely to our republic, etc.

The ESSR soil fund is part of the union-wide one. The same all-Union directives apply in inventory and quality assessment. This is necessary to assure comparability of data between the various republics. At the same time our republic's soil researchers must be careful to assure that the specific characteristics of our soils be presented objectively and clearly. Only then can we at least hope for reliable data regarding the natural conditions for agricultural production in the various republics.

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Table. Indicators of Arable Soil in the Federal Republics of the Western Region

<u>Indicator</u>	<u>ESSR</u>	<u>LaSSR</u>	<u>LiSSR</u>	<u>BSSR</u>
Soil texture in percent:				
Sandy soils	14.9	13.8	14.0	
Silty soils	31.6	41.0	41.1	
Light and medium loam	40.0	39.6	38.9	
Heavy loam and clay	5.6	4.2	3.0	
Peaty soils	7.9	1.4	3.0	
Soil according to genetic groups in percent:				
Mineral soils	53.3	64.8	53.0	
Mineral bog	38.8	32.9	44.0	
Swampy soils	7.9	2.3	3.0	
Eroded soils (in percent)	5.3	18.5	20.3	10.6
Rocky soils	82.0	71.0	68.5	9.4
Average field size in ha	4.5	8.0	7.4	14.1
Sum of active temperatures (10 degrees C) in C	1,784	1,922	2,137	2,290
Precipitation in growing season in mm	327	312	339	348

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